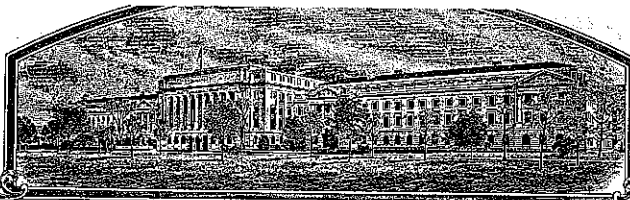


No.

200100221



# THE UNITED STATES OF AMERICA

**TO ALL TO WHOM THESE PRESENTS SHALL COME:**

**U.S. Department of Agriculture/Agriculture Research Service and  
N.C. Agriculture Research Service**

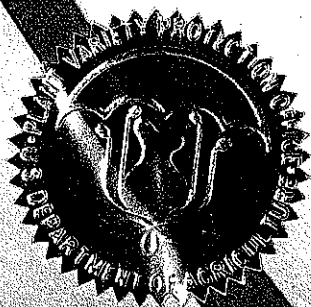
*Whereas*, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND, **WHEREAS**, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW. NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE SEED. (34 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'N7001'



*In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twelfth day of September, in the year two thousand one.*

*Attest:*

*Paul M. Zakowski*

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*Ann H. Henson*

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

<b>1. NAME OF OWNER</b> ARS-U.S. Dept. of Agriculture and N.C. Agriculture Research Service		<b>2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME</b> N90-7199		<b>3. VARIETY NAME</b> N7001			
<b>4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)</b> Box 7643 N.C. State University Raleigh, NC 27695-7643		<b>5. TELEPHONE (include area code)</b> 919-515-2734		<b>FOR OFFICIAL USE ONLY</b> PVPO NUMBER 200100221			
<b>6. FAX (include area code)</b> 919-856-4598		<b>7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.)</b> Agency of U.S. govt. & state of N.C.		<b>8. IF INCORPORATED, GIVE STATE OF INCORPORATION</b>			
<b>9. DATE OF INCORPORATION</b>		<b>FILING DATE</b> 6/13/01		<b>FILING AND EXAMINATION FEES:</b> \$ 2705. <sup>00</sup> <b>CERTIFICATION FEE:</b> \$ 320. <sup>22</sup> <b>DATE</b> 9/14/01			
<b>10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)</b> <table style="width:100%;"> <tr> <td style="width:50%; vertical-align: top;">                             Myron Fountain                              3709 Hillsborough St.                              Rm 3A                              Raleigh, NC 27607                              *1                         </td> <td style="width:50%; vertical-align: top;">                             Thomas E. Carter, Jr.                              3127 Ligon St.                              Box 7631                              Raleigh, NC 27695                              *2                         </td> </tr> </table>						Myron Fountain 3709 Hillsborough St. Rm 3A Raleigh, NC 27607 *1	Thomas E. Carter, Jr. 3127 Ligon St. Box 7631 Raleigh, NC 27695 *2
Myron Fountain 3709 Hillsborough St. Rm 3A Raleigh, NC 27607 *1	Thomas E. Carter, Jr. 3127 Ligon St. Box 7631 Raleigh, NC 27695 *2						
<b>11. TELEPHONE (include area code)</b> *1-919-513-3444 *2-919-515-2734		<b>12. FAX (include area code)</b> *2- 919-856-4598		<b>13. E-MAIL</b> tommy_carter@ncsu.edu			
<b>14. CROP KIND (Common Name)</b> soybean		<b>15. GENUS AND SPECIES NAME OF CROP</b> Glycine max					
<b>16. FAMILY NAME (Botanical)</b> Leguminosae		<b>17. IS THE VARIETY A FIRST GENERATION HYBRID?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
<b>18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)</b> a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			<b>19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act)</b> <input checked="" type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input type="checkbox"/> NO (If "no," go to item 22)				
<b>20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			<b>21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?</b> <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED				
<b>22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			<b>23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)				
<b>24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.</b> The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.							
<b>SIGNATURE OF OWNER</b> Thomas E. Carter, Jr.			<b>SIGNATURE OF OWNER</b>				
<b>NAME (Please print or type)</b> Thomas E. Carter, Jr.			<b>NAME (Please print or type)</b>				
<b>CAPACITY OR TITLE</b> Research Geneticist, USDA-ARS		<b>DATE</b> Dec. 1, 2000		<b>CAPACITY OR TITLE</b>			
<b>DATE</b>		<b>DATE</b>		<b>DATE</b>			

## Attachments to Application for Plant Variety Protection Certificate

200101221 III

## 18A.

1- "N7001" was developed by Dr. Thomas E. Carter, Jr., Research Geneticist, USDA, ARS. N7001 is a high yielding maturity group VII cultivar selected to broaden the limited genetic base of traditional southern cultivars. N7001 is adapted to the South Atlantic Coast and Southeastern USA.

2- N7001, previously identified as N90-7199, is an F<sub>4</sub>-derived selection from the cross of USDA-ARS breeding line, N77-114, and PI 416937, an old cultivar from Japan. PI 416937 has not appeared previously in the pedigree of any U.S. cultivar and is strikingly dissimilar to any U.S. variety or ancestor in phenotype. The parents of N77-114 were 'Essex' and N70-2173. N70-2173 is from the cross of Hampton x 'Ransom'. 'Hampton' was developed by Coker's Pedigree Seed Co. from the cross of 'Majos' and 'Lee'. Majos was developed from the cross of Tokyo and a selection from Nanda. N77-114 and PI 416937 were crossed in 1987 at Raleigh, NC, and the F<sub>1</sub> was grown at the USDA-ARS Tropical Agriculture Research Station (TARS), Isabela, PR, the following winter. The F<sub>2</sub> plants were advanced using single seed descent at Clayton, NC in 1988 and the following winter at TARS. In 1989, individual F<sub>4</sub> plants were harvested at Clayton, NC. Approximately 500 were selected for progeny increase at Clayton, NC in 1990. Approximately 100 non-shattering and non-lodging progeny rows were harvested and, subsequently, these breeding lines were yield tested at the Sandhills Research Station in North Carolina in 1991. N7001 was identified as a promising breeding line and continued to perform well in North Carolina in 1992 and 1993. Thereafter, N7001 was tested at 5, 12, 17, and 13 southern regional locations in 1994, 1995, 1996 and 1997, respectively, as part of the USDA Cooperative Uniform Soybean Yield Trials. N7001 was also yield tested in 26 North Carolina environments by the North Carolina Official Variety Testing Program from 1996 through 1998.

3- In five years of testing and increase yield performance was at least comparable to released cultivars.

4- Hila color (imperfect black) may vary in intensity within a seed lot depending on environmental conditions related to temperature, frost, and presence of virus in the field. Off type hila color (i.e. hila color other than imperfect black) can occur at a rate less than 2%.

## 18B.

- N7001 has yellow seed, imperfect black hila, purple flowers, gray pubescence, and determinate growth habit. N7001 is resistant to Soybean Mosaic Virus, frogeye leaf spot (*Cercospora sojina* Hara), and bacterial pustule (*Xanthomonas campestris* pv. *glycines* (Nakano) Dye) but

susceptible to the cyst (*Heterodera glycines*) and root knot (*Meloidogyne*) species of nematode.

N7001 matures approximately 3 days later than 'Cook' or 'Haskell' and is adapted to similar latitudes (approximately 31° to 37° North). In 21 regional USDA Cooperative Uniform Soybean Yield Trials on the Atlantic coast, it produced 4% lower yield than Haskell in wide-row (95 cm) spacings when grown under full season conditions. In 26 full-season wide-row (95 cm) and late-planted narrow-row (48 cm) yield trials in North Carolina, N7001 produced 2% higher yield than did Haskell and the same yield as Cook. In 1998, N7001 was the highest yielding entry in its maturity class in the North Carolina Official Variety Testing Program. N7001 is lodging resistant, exhibiting an average lodging score similar to or better than Haskell or Cook in USDA Cooperative Uniform Soybean Yield Trials. N7001 is resistant to pod dehiscence (shattering) after maturation, even when harvest is delayed extensively in North Carolina. N7001 averaged 10 cm shorter than Haskell in these same trials. The seed of N7001 were slightly smaller (1 g per 100 seed) than those of Haskell and had similar oil and protein content in the USDA Cooperative Uniform Soybean Yield Trials. Please see attached tables 1,2,3, and 4.

- 18C. See attached form.
- 18D. None.
- 18E. See attached form.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705

EXHIBIT C  
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY  
SOYBEAN (*Glycine max* (L.) Merr.)

NAME OF APPLICANT(S) *1- Myron Fountain		*2-Thomas E. Carter, Jr.	FOR OFFICIAL USE ONLY PVP NUMBER <b>200100221</b> VARIETY NAME N7001 TEMPORARY OR EXPERIMENTAL DESIGNATION N90-7199
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)			
*1-	*2-		
3709 Hallsborough St. Rm 3 a Raleigh, NC 27607	3127 Ligon St. Box 7631 Raleigh, NC 27695		

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in the first box (e.g. 

0	9	9
---	---	---

 or 

0	9
---	---

) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal

Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:

Please answer all questions for your variety; lack of response may delay progress of your application.

A. MORPHOLOGY

Seed Shape:

<table border="1"><tr><td>4</td></tr></table>	4	1 = Spherical (L/W, L/T, and T/W ratios < 1.2)	2 = Spherical-Flattened (L/W ratio > 1.2; L/T ratio < 1.2)	L/W= 1.7 L/T= 1.3 T/W= 1.4
4				
	3 = Elongate (L/T ratio > 1.2; T/W ratio < 1.2)	4 = Elongate-Flattened (L/T ratio > 1.2; T/W ratio > 1.2)		

Seed Coat Color:

<table border="1"><tr><td>1</td></tr></table>	1	1 = Yellow	2 = Green	3 = Brown	4 = Black	5 = Other (Please Specify) _____
1						

Seed Coat Luster:

<table border="1"><tr><td>1</td></tr></table>	1	1 = Dull	2 = Shiny
1			

Seed Size:

<table border="1"><tr><td>1</td><td>5</td></tr></table>	1	5	grams/100 seeds
1	5		

Hilum Color:

<table border="1"><tr><td>5</td></tr></table>	5	1 = Buff	2 = Yellow	3 = Brown	4 = Gray	5 = Imperfect Black
5						
	6 = Black	7 = Other (Please Specify) _____				

Cotyledon Color:

<table border="1"><tr><td>2</td></tr></table>	2	1 = Yellow	2 = Green
2			

B. DISEASE REACTIONS (Continued) 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Frogeye Leaf Spot (*Cercospora sojina* Hara)

☐  
☐

race 1

☐  
☐

race 2

☐  
☒

race 3

☐

race 4

Other (Please Specify) Resistant to local races in the field

☐

Target Spot (*Corynespora cassiicola* (Berk. & Curt.) Wei)

☐

Downey Mildew (*Peronospora trifoliorum* var. *manchurica* (Naum.) Syd. ex Gäum)

☐

Powdery Mildew (*Microsphaera diffusa* Cke. & Pk.)

☐

Brown Stem Rot (*Phialophora gregata* (Allington & Chamberlain) W. Gams.)

☐

Stem Canker (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *caulivora* Athow & Caldwell)

☐

Pod and Stem Blight (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *sojae* (Lehman) Wehm.)

☐

Purple Seed Stain (*Cercospora kikuchii* (T. Matsu. & Tomoyasu) Gardener)

☐

Rhizoctonia Root Rot (*Rhizoctonia solani* Kühn)

Phytophthora Root Rot (*Phytophthora megasperma* Drechs. f. sp. *glycinea* (Kuan & Erwin))

☐  
☐  
☐  
☐  
☐  
☐  
☐  
☐

race 1  
race 2  
race 3  
race 4  
race 5  
race 6  
race 7

☐  
☐  
☐  
☐  
☐  
☐  
☐  
☐

race 8  
race 9  
race 10  
race 11  
race 12  
race 13  
race 14

☐  
☐  
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☐  
☐  
☐  
☐

race 15  
race 16  
race 17  
race 18  
race 19  
race 20  
race 21

☐  
☐  
☐  
☐  
☐  
☐  
☐

race 22  
race 23  
race 24  
race 25  
race 26  
Other (Please Specify):

☐

Bud Blight (Tobacco Ringspot Virus)

☐

Yellow Mosaic (Bean Yellow Mosaic Virus)

☐

Cowpea Mosaic (Cowpea Chlorotic Virus)

☐

Pod Mottle (Bean Pod Mottle Virus)

# A. MORPHOLOGY (Continued)

## Seed Protein Peroxidase Activity:

☐ 1 = Low      2 = High

## Hypocotyl Color:

☐ 1 = Green  
'Evans' or 'Davis'

2 = Green with Bronze Bands below Cotyledon  
'Woodworth' or 'Tracy'

3 = Light Purple below Cotyledons  
'Beeson' or 'Pickett 71'

4 = Dark Purple extending to unifoliate leaves ('Hodgson', 'Coker', or 'Hampton 266A')

## Leaf Shape:

☐ 3 1 = Lanceolate      2 = Oval      3 = Ovate      4 = Other (Please Specify) \_\_\_\_\_

## Flower Color:

☐ 2 1 = White      2 = Purple      3 = White with a Purple Throat

## Pod Color:

☐ 1 1 = Tan      2 = Brown      3 = Black

## Pubescence Color:

☐ 1 1 = Gray      2 = Brown (Tawny)      3 = Light Tawny

## Plant Habit:

☐ 1 1 = Determinate      2 = Semi - Determinate      3 = Indeterminate      4 = Intermediate

## Maturity Group:

<input type="checkbox"/> 1	1 = 000	2 = 00	3 = 0	4 = I	5 = II
<input type="checkbox"/> 0	6 = III	7 = IV	8 = V	9 = VI	10 = VII
	11 = VIII	12 = IX	13 = X	14 = XI	15 = XII

## Maturity Subgroup:

☐ 8 Please enter a value from 0 - 9

## B. DISEASE REACTIONS

0 = Not Tested      1 = Susceptible      2 = Resistant      3 = Tolerant

### Bacterial

☐ 2 Bacterial Pustule (*Xanthomonas campestris* pv. *glycines* (Nakano) Dye)

☐ 0 Bacterial Blight (*Pseudomonas syringae* pv. *glycinea* (Coerper) Young, Dye, & Wilkie)

☐ 0 Wildfire Blight (*Pseudomonas syringae* pv. *tabaci* (Wolf & Foster) Young, Dye, & Wilkie)

### Fungal

☐ 0 Brown Spot (*Septoria glycines* Hemmi)

B. DISEASE REACTIONS (Continued) 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

☐ 2 Seed Mottle (Soybean Mosaic Virus)

Nematode

20010221

Soybean Cyst Nematode (*Heterodera glycines* Ichinohe)

☐ 1

race 1

☐ 1

race 4

☐ 1

race 9

☐ 1

race 2

☐ 1

race 5

☐ 1

race 14 (former r. 4)

☐ 1

race 3

☐ 1

race 6

☐ 1

Other (Please Specify) \_\_\_\_\_

☐ 0

Lance Nematode (*Hoplolaimus columbus* Sher)

☐ 1

Southern Root Knot Nematode (*Meloidogyne incognita* (Kofoid & White) Chitwood)

☐ 1

Northern Root Knot Nematode (*Meloidogyne hapla* Chitwood)

☐ 1

Peanut Root Knot Nematode (*Meloidogyne arenaria* (Neal) Chitwood)

☐ 0

Reniform Nematode (*Rotylenchus reniformus* Linwood & Olivera)

☐ 0

Javanese Nematode (*Meloidogyne javanica* (Treub) Chitwood)

☐ 0

Other Nematode (Please Specify) \_\_\_\_\_

C. PHYSIOLOGICAL RESPONSES

0 = Not Tested

1 = Susceptible

2 = Resistant

3 = Tolerant

☐ 0

Iron Chlorosis on Calcareous Soil

☐ 0

Phosphorus

☐ 0

Boron

☐ 0

Aluminum

☐ 2

Salt

☐ 0

Drought

☐

Other (Please Specify) \_\_\_\_\_

**D. INSECT REACTIONS**

0 = Not Tested

1 = Susceptible

2 = Resistant

3 = Tolerant

☐Mexican Bean Beetle (*Epilachna varivestis* Mulsant)☐Potato Leaf Hopper (*Empoasca fabae* (Harris))

200105221

☐

Other (Please Specify) \_\_\_\_\_

**E. HERBICIDE REACTIONS**

0 = Not Tested

1 = Susceptible

2 = Resistant

☐

Metribuzin

☐

Bentazone

☐

Sulfonylurea

☐

Glyphosate

☐

Glufosinate

☐

Pendimethalin

☐

Other (Please Specify) \_\_\_\_\_

**F. TRANSGENIC COMPOSITION**

Has the development of the Subject Variety included the insertion or removal of genetic material?  
If yes, please complete the following information requests\*. Use additional pages if necessary.

☐

YES

☒

NO

1. Please state the vector's name:

2. Please state the vector components:

3. Please describe the genetic material successfully transferred into the Subject Variety:

4. Please describe the insertion protocol:

\* A literature citation(s) explaining the four information requests above may be an acceptable alternative to completion of the "Transgenic Composition" portion of this form.

**G. BIOCHEMICAL MARKERS**

Please describe any biochemical information here which you believe will be helpful in further describing the Subject Variety (e.g. Simple Sequence Repeats, Restriction Fragment Length Polymorphisms, Isozymic Characterization). Use additional pages if necessary.

N/A



Table 1. Agronomic performance of advanced soybean breeding line in the USDA Cooperative Uniform Soybean Yield Trials.

Southern Region 1994†										Southern Region 1995†									
GENOTYPES	MATURITY	YIELD	100 SEED WT.	PROTEIN	OIL	LODGE	PLANT HEIGHT			GENOTYPES	MATURITY	YIELD	100 SEED WT.	PROTEI N	OIL	LODGE	PLANT HEIGHT		
Oct 19 = 1										Oct 20 = 1									
		bu/ac	G	%	%	1-5	Inch					bu/ac	g	%	%	1-5	inch		
N7001	2	49.1	13.7	42.1	20.4	2.2	32			N7001	3	41.0	13.4	41.1	20.3	1.8	29		
Stonewall	1	44.8	15.2	44.6	20.5	2.6	37			Stonewall	1	39.4	15.3	42.1	20.7	1.8	29		
Haskell	2	48.3	15.5	42.8	20.1	2.4	38			Haskell	1	42.2	14.8	41.1	20.3	2.2	31		
LSD(0.05)										LSD(0.05)									
6.8										3.6									

Southern Region 1996†										Southern Region 1997†									
GENOTYPES	MATURITY	YIELD	100 SEED WT.	PROTEIN	OIL	LODGE	PLANT HEIGHT			GENOTYPES	MATURITY	YIELD	100 SEED WT.	PROTEIN	OIL	LODGE	PLANT HEIGHT		
Oct 18 = 1										Oct 19 = 1									
		bu/ac	g	%	%	1-5	Inch					bu/ac	g	%	%	1-5	inch		
N7001	3	41.8	14.7	42.8	20.8	1.7	29			N7001	1	38.5	13.6	40.5	19.9	2	29		
Benning Haskell	0 1	44.0 46.6	14.4 16.0	43.4 42.9	20.9 21.3	1.7 2.4	34 35			Benning Haskell	1 1	41.1 39.6	14.7 14.5	41.5 40.8	20.3 20.2	2 2	33 35		
LSD(0.05)										LSD(0.05)									
3.7										4.7									

† Yield averaged over 5, 12, 17, and 13 locations in 1994, 1995, 1996 and 1997, respectively.

**Table 2. Yield of advanced soybean breeding line for Atlantic Coast locations of USDA regional trials from 1994-1997**

Genotypes	Atlanta coast locations <sup>†</sup> bu/ac
N7001	41.0
Haskell	42.6

<sup>†</sup> Atlantic Coast included 21 locations from North Carolina, South Carolina and North Georgia

<sup>‡</sup> Calculation of an LSD was impractical because entries changed each season.

**Table 3. Yield of advanced soybean breeding line in Official North Carolina State Variety Testing from 1996-1998.**

N.C. OFFICIAL VARIETY TESTING 1996-1998				
GENOTYPES	Early-planted (16 locations)		Late-planted (10 locations)	
	MATURITY	YIELD	MATURITY	YIELD
	Oct. 1=1	BU/AC	Oct. 1=1	BU/AC
N7001	35	45	35	32
Pioneer 9831	36	46	36	35
Carver	30	46	30	32
Cook	33	46	33	31
Haskell	32	44	32	31
Benning	33	42	33	30

**Table 4. Yield of advanced soybean breeding line in Official North Carolina State Variety Testing in 1998.**

N.C. OFFICIAL VARIETY TESTING 1998		
GENOTYPES	Early-planted (5 locations)	
	MATURITY	YIELD
	Oct. 1=1	BU/AC
N7001	36	47
Pioneer 9831	35	47
Carver	30	46
Cook	33	45
Haskell	33	43
Benning	33	43

# EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) USDA- Agricultural Research Service and N.C. Agriculture Research Service	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER N90-7199	3. VARIETY NAME N7001
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) N.C. State University Box 7643 Raleigh NC 276	5. TELEPHONE (include area code) (919) 515-2717	6. FAX (include area code) (919) 515-7745
7. PVPO NUMBER 20010221		

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? ☒ YES ☐ NO  
If no, give name of country

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

N/A ☐ YES ☐ NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

N/A ☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (if needed, use reverse for extra space):

## PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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